

THE IMPACT OF GREEN SUPPLY CHAIN PRACTICES ON SUSTAINABLE PERFORMANCE

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ABSTRACT

With increases awareness of public's to the environmental problem and the requirement meet the term of environmental policy green supply chain management becoming important to the manufacturing. Green supply chain practices can contribute improving manufacturer's performance from environmental point, economic point and social point. The purpose of this paper is to explore the relationship among the green supply chain practices on the sustainable performance. This study will also identify the most important green supply chain practice.

Keywords

Green supply chain management, Green supply chain practices, environmental Performance, Economic performance, Social performance

1.0 INTRODUCTION

Green supply-chain management (GSCM) is gaining increasing interest among public, manufacturing organizations, government and researchers. The growing importance of green supply chain is driven of environmental concern such like diminishing raw material resources, overflowing waste sites and increasing levels of pollution. Green supply chain management which integrated environmental elements when managing supply chain. Manufacturing have begun implement green supply chain practices in response to the customer demand for product and services and in order response government regulation (Murray 2000; Green et al. 1998). Green supply chain management not just about environment friendly it is also a good business sense and high profit return managing. In addition, the regulatory requirements and consumer pressures also driving green supply chain management. The green supply chain management literature has examined the importance of cooperation across the supply chain with both customers and suppliers on

environmental sustainable, which has been show to lead to improved firm performance (Vachon and

Klassen, 2006). The objective of the research is to identify the impact and relationship among the green supply chain practice on the sustainable performance and identify the most important green supply practices. Furthermore, the results of this research will provide the new insights to GSCM and sustainable performance to organizations, which are planning or currently implementing GSCM practices and improve the green operation performance and outcome.

2.0 LITERATURE REVIEW

2.1 Green Supply Chain Management

As a result of environmental protection problems and endangering of natural resources concern, environmental management has become a topic concern of business, government and consumer. (New et al.,2002). Green or sustainable supply chain management is defined as the strategic, transparent integration, to achieve the social, environmental and economic goals of the enterprise business to improve the long-term performance of the company and its supply chain partners (Ageron, Gunasekaran, and Spalanzani, 2011). Recent studies by Linton et al. (2007), Carter and Rogers (2008), Kaynak and Montiel (2009) and Sharma et al. (2010) cited in (Kuik et al.,2011) emphasised that sustainable supply chain development in terms of social, economic and environmental benefits should be taken into consideration in supply chain practices. Nowadays many manufacturing and organization accept the necessary of environmental management and change their focus on the green supply management to fulfil the global market requirement. The aims of green supply chain is to eliminate and reduce negative environmental impacts air, water, and land pollution and waste of resources energy, materials, products from the extraction or acquisition of raw materials up to final use and

disposal of products (Jr, Zelbst, Meacham & Bhadauria, 2012). Nowadays many manufacturing and organization accept the necessary of environmental management and change their focus on the green supply management to fulfil the global market requirement.

2.2 Green Supply Chain Practices on Sustainable Performance

Green supply chain practices is the term commonly used in the research literature to refer to a variety of activities performed by an organisation in order to minimize their impact on the natural environment (Vachon and Klassen, 2006; Sarkis et al., 2010). GSCP is considered, a potential impact of GSCP on company performance is nowadays widely acknowledged (Handfield et al., 1997; Montabon et al., 2007; Zhu et al., 2007a). According to (Zhu, 2008) that is three-fold impact on company performance, which include impact on environmental performance, impact on economic performance and impact on operation performance. The importance of green supply practices such as green purchasing, manufacturing production, marketing recycling has been discussed in the green supply chain literature (Hervani et al, 2005). Green supply chain evidently impacts on the environmental performance such like reduce air emission, reduce waste of material and improve environmental level. Green supply practices impact on economic such like reduce energy waste, decrease material purchasing and decrease environmental accident. Furthermore, green supply chain practices can improve operation performance like improve product line, reduce inventory level and improve capacity utilization.

2.3 Summary of Previous Study of Green Supply Chain Management

Table 1: Summary of previous studies

YEAR	TITLE/AUTHOR	FINDING
2008	Green supply chain management in the electronic industry C. W. Hsu A. H. Hu	-Supplier management performance in the crucial role of implementing GSCM. -Important establishing an environmental database of products, asking for product testing report and top management support.

2009	An empirical study of green supply chain management practices among UK manufactures Diane Holt Abby Ghobadian	-Environmental attitude is a key predictor of GSCM practices activity -GSCM practices among the UK manufacturers are focusing on internal supply chain practices, higher risk, descriptive activities
2009	Study on the Implementation of Green Supply Chain Management in Textile Enterprises Fengfei Zhou	-GSCM practices offer an ideal management mode for economic benefits and social benefits in Chinese textile enterprises
2010	Green supply chain management in leading Case studies in Japanese large companies manufacturers Qinghua Zhu Yong Geng Tsuyoshi Fujita Shizuka Hashimoto	-GSCM practices active implementing in Japan manufacturing
2010	The Implementation of Green Supply Chain Management Practices in Electronics Industry Ninlawan C Seksan P Tossapol K Pilada W	-Both environmental and economic were positively in significant in GSCM practices
2010	A taxonomy of green supply chain Management capability among electronics-related manufacturing firms in Taiwan Kuo-Chung Shang	-Six GSCM practices was examined and green marketing oriented group performed best
2011	Green, lean, and global supply chains Diane Mollenkopf Hannah Stolze	-The role of GSCM Practices greatly influence company performance

2012	Overview of Green Supply Chain Management: Operation and Environmental Impact at Different Stages of the Supply Chain Rajesh Kumar, Rituraj Chandrakar	-GSCM is appropriate methodology may be adopted by the industries/services to minimise the detrimental effect on the environment
2012	An Overview of Green Supply Chain Management in India Nimawat Dheeraj Namdev Vishal	-Cost and the biggest barriers to implementing GSCM practices
2012	Greening community pharmaceutical supply chain in UK: a cross boundary approach Ying Xie Liz Breen	-Participants implementing GSCP influences from professional and regulatory bodies
2012	Green supply chain management and organizational Performance Sang M. Lee Sung Tae Kim Donghyun Choi	-Direct link between GSCM practice implementation and business performance
2012	Green supply chain management practices: impact on performance Kenneth W. Pamela J. Zelbst Jeramy Meacham Vikram Bhadauria Green Jr	-Environmental and economic performance, which, in turn, positively impact operational performance.
2012	Natural resource based green supply chain management Victor Guang Shi S.C. Lenny Koh James Baldwin Federica Cucchiella	-In terms of intra- and inter-organisational practices influence environmental performance
2012	Sustainable supply chain for	-6practices considerations to

	collaborative manufacturing Swee Siong Kuik Sev Verl Nagalingam Yousef Amer	improve end-of-life planning and strategy
2012	Green supply chain practices and company performance: the case of 3PLs in Italy Sara Perotti Marta Zorzini Enrico Cagno Guido J.L. Micheli	-GSCP is still limited amongst the 3PLs investigated. -Some players have shown a more proactive attitude and started benefiting substantially from the adoption of GSCP

3.0 RESEARCH METHODOLOGY

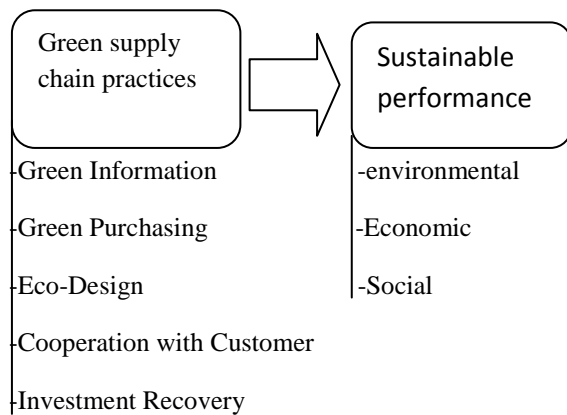
The methodology for this study consists of a theoretical part (literature review and theoretical framework development). The sources data of this study collected from the secondary data. Considering the topic is focus on the green supply chain, reviewed of previous literature about green supply practices and the sustainable performance. The literature of this study based on the sources which have been published since 2008 to 2012. Article taken from the Google Scholar, University data base, Emerald Management Plus, JStor, and Elsevier Science Direct.

4.0 FINDINGS

4.1 Theoretical framework

The concept framework for this study is show in Figure 1. In this study are aims to explore the relationship among the green supply chain practices (green information, green purchasing, and cooperation with customer, eco-design and investment recovery) to the sustainable performance (environmental performance, economic performance, and social performance). This theoretical model propose a mediated model where implementation of GSCM practices has a positive influence on the firm's , environmental performance, economic performance and social performance. Changes made as a result of impact the ability to implement green supply chain practices which will impact environmental performance, economic performance, and social performance. Green supply chain practices classified as independent variables while the sustainable performance as the dependent variable.

Figure 1: Diagram of the relationship between the independent variable (Green supply chain practices) and the dependent variable (Sustainable performance)



RQ1: What are the relationships among green supply practices and the sustainable performance?

Based on the review of previous literature, green supply management chain practices have the positive relationship to the sustainable performance. In these research five practices focus to study that is (green information green purchasing, cooperation with customer, eco design and investment recovery). The relationships among green supply chain practices to the sustainable performance were identified through the measurement, testing and study of (Jr, Zelbst, Meacham & Bhadauria,2012).

According to (Jr, Zelbst, Meacham & Bhadauria, 2012) green purchasing is positively impact on the economic performance. Cooperation with customers is positively associated with both environmental and economic performance. Eco-design link positive to the environmental performance. Investment recovery is positively associated with environmental performance. Both environmental performance and economic performance are positive associated with social performance. Guang, Koh, Baldwin, Cucchiella (2012) pointed out that research has integrated

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social measures as a subcomponent in the overall environmental and economic performance model. Based to the previous literature review stated that corporate social responsibility and the firm's business performance is positively related to a firm's business performance, such as stock market returns and accounting based measures. Lee, Kim, Choi(2012) defined that socially responsible corporations can stand in a better economic position than socially irresponsible cooperation.

RQ 2: Which is the most important of green supply chain practices that impact sustainable performance?

Green information practice is found to be the most important practices to impact the sustainable performance. Jr, Zelbst, Meacham & Bhadauria (2012) stated out that green information systems are necessary precursors to implementation of green supply chain practices. As the environmental sustainable is the first adopt and consideration of making green supply chain practices, green information is to modifying existing information systems to capture data and generate information related to environmental sustainability.

5.0 CONCLUSION

The objective of this study is aims to explore the relationship among the green supply practices and sustainable performance. Based on the previous literature review, it shows that green supply chain practices had the positive relationship with the sustainable performance. Green supply chain practices play an important role to save the environment from destroy. Green supply management integrated environmental concern while making supply chain decision. The public environmental awareness has been increased; education should be encouraged through formal and informal. Driven by the social and government changes, manufactures have implanted green supply chain practices such like green purchasing, recycle, eco-design and reuse and ISO 1400 certification is chosen to assess the impact of environmental regulations on the green supply chain management.

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